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CLAIM AMENDMENTS

Claim 1 (Canceled)

Claim 2 (Currently amended): The method of claim ~~1~~ 8, wherein the monitoring of the surface area of dissociation initiating material in contact with the aqueous liquid comprises monitoring the level of aqueous liquid in the reaction vessel.

Claim 3 (canceled).

Claim 4 (canceled).

Claim 5 (canceled).

Claim 6 (Currently amended): The method of claim ~~1~~ 8, wherein the aqueous liquid is forced out of the reaction vessel by a pressure differential between the reaction vessel and another vessel in fluid communication with the reaction vessel.

Claim 7 (Currently amended): The method of claim ~~1~~ 8, wherein the aqueous liquid is forced out of the reaction vessel by a pump.

Claim 8 (Currently amended): ~~The method of claim 1, wherein the aqueous liquid comprises~~ A method for controlling the dissociation of a flow stream of water into hydrogen and oxygen, comprising:

intermittently introducing a flow stream of an aqueous liquid comprising an aqueous solution of alkali metal hydroxide into a reaction vessel and contacting it therein with a quantity of dissociation initiating material;

monitoring the temperature, or pressure, or both, in the reaction vessel;

monitoring the surface area of dissociation initiating material in contact with the aqueous liquid; and

controlling the surface area of dissociation initiating material in contact with the aqueous liquid in response to the temperature, or pressure, or both, or in response to changes in temperature or pressure or both, in the reaction vessel by either:

(a) adjusting the level of aqueous liquid in the reaction vessel,

(b) varying the rate of introduction of aqueous liquid into the reaction vessel, or

(c) forcing aqueous liquid out of the reaction vessel in response to an increase in the pressure in the reactor or a combination of these.

Claim 9 (originally presented): The method of claim 8, wherein the alkali metal hydroxide is sodium hydroxide.

Claim 10 (originally presented): The method of claim 9, wherein the aqueous solution contains sodium hydroxide in a concentration ranging from about 4 M to about 10 M.

Claim 11 (Currently amended): The method of claim ~~1~~ 8, wherein the dissociation initiating material is a metal or metal compound selected from the group consisting of aluminum, alloys of sodium and aluminum, iron, zinc, sodium, and alkali and alkaline earth metal hydrides.

Claim 12 (originally presented): The method of claim 11, wherein the dissociation initiating material is aluminum.

Claim13 (Currently amended): ~~The method of claim 1, wherein the aqueous liquid is~~ A method for controlling the dissociation of a flow stream of water into hydrogen and oxygen, comprising:

intermittently introducing a flow stream of an aqueous liquid comprising an aqueous solution of sodium hydroxide into a reaction vessel and contacting it therein with a quantity of dissociation initiating material comprising~~and the dissociation initiating material is~~ aluminum;

monitoring the temperature, or pressure, or both, in the reaction vessel;

monitoring the surface area of dissociation initiating material in contact with the aqueous liquid; and

controlling the surface area of dissociation initiating material in contact with the aqueous liquid in response to the temperature, or pressure, or both, or in response to changes in temperature or pressure or both, in the reaction vessel by either:

(a) adjusting the level of aqueous liquid in the reaction vessel,

(b) varying the rate of introduction of aqueous liquid into the reaction vessel, or

(c) forcing aqueous liquid out of the reaction vessel in response to an increase in the pressure in the reactor or a combination of these.

Claim 14 (Canceled)

Claim 15 (Canceled)

Claim 16 (Canceled)

Claim 17 (Canceled)

Claim 18 (Canceled)